

# **BUILDING LAND MARKETS IN THE ASIA PACIFIC REGION**

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## **SUMMARY**

Land markets attract wide participation, all over the globe. Market activities receive intense analysis from economists and bankers, investors and developers, and they interest millions of people. Meanwhile, how to build a land market remains a mystery. Those countries that achieved effective modern land markets have the benefit of well run land administration systems. These systems therefore offer the key to building a market.

The problem is that building land administration capacity does not always assist the creation and management of a successful land market. There are two explanations for this. First the complexity of a formal land market is not well understood. Second the different kinds of land administration infrastructures that are needed to support land markets as they develop from simple land trading into complex commodity markets need to be identified and implemented. These issues are explored below. The perspective of this exploration is that of an engineer interested in designing, building and managing the infrastructure needed to support modern land markets.

## **A LAND ADMINISTRATION VIEW OF LAND MARKETS**

### **Land administration infrastructure**

Land administration as a discipline relies principally on engineering methodology to design, build and manage effective institutional infrastructures to achieve the announced policy goals. Creating and managing dynamic land markets are the most common reasons why governments invest in LAS. Countries desiring an effective land market need to bring land into a formal market distribution system. This involves identifying both the land and the commodities related to that land through suitable infrastructures. When these infrastructures (including core land administration institutions and processes for tenure, value, use and development) are related to the land management, daily functions of the market are capable of being related to delivery of sustainable development, including its social and environmental goals, not just its economic goals. This is easier said than done.

Descriptive and analytical literature about land markets generally comes from the discipline of economics and focuses on the activities of buying and selling, leasing, developing, using capital, raising credit, and so on. This business end of land markets also receives a great deal of attention because it is the public face of local and even

global land markets., However the primary question for countries interested in building markets is how to build the institutions that are needed to support market activities.

### **Relationships between formal and informal markets**

Land markets can be formal or informal; all markets require an administrative system and rules of the game. In the land administration discipline, a market is more or less formal according to the level its activities are serviced by public, authorized systems provided by, or at least organised through, government. For land administration as a discipline, the art is to formalize systems as much as possible. Standard processes of formalization involve creating infrastructure to manage processes to deliver registration, valuation and taxation, and planning and development.

The most successful markets have converted virtually the entire realm of the activities to formal processes managed through official systems. In many cases building an effective infrastructure took hundreds of years, and countless human and financial resources. Of the 227 world nations, only about 40, depending on the criteria used in the count, can claim they run effective formal, comprehensive, national, land markets. Arguably, these include most of the 30 countries that ratified the Convention on the Organisation of Economic Co-operation and Development (OECD), (Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States; OECD 2005). Some aspiring OECD members, and others with broad based economies, might also be included. In the remaining countries, informal land markets make up an important, and sometimes the only, systems operating in the land economy.

Informal land markets, though sometimes very successful in terms of prices, have major limitations. They lack infrastructure used in the developed countries to deliver high public confidence or to attract the participation of formal financial institutions in the trading processes. Their rules are not apparent and therefore the interests in land are frequently unrefined, irregular, happenstance or, worse, insecure. These informal markets therefore cannot attract formal, institutional credit at competitive rates, develop into complex commodity markets, or support secondary levels of trading at standards comfortable for global investment. Their success in organising the processes of trading land among their participants depends on local systems of enforcement that are often far from transparent. These informal markets sometimes operate in countries that provide parallel, legalized, formal market systems because people seek to reduce the human and financial overheads of doing business, and prefer local and informal practices over expensive formalities. In countries with parallel markets using degrees of formalization, the most formal transactions tend to engage the large scale developments and high value land.

The distinction between formal and informal land markets is not black and white. Both kinds of markets operate simultaneously in every country, transitional processes are frequently ad hoc, and the differentiation involves degrees to which markets are formalized rather than a definitive separation.

Informality is not synonymous with simplicity. Informal markets can feature complicated processes of trading and inheriting land. The evidentiary practices can also be complicated. They tend to lack transparency for strangers, and to reinforce the exclusionary functions of their beneficial group. They sometimes involve highly refined systems of micro-credit. The design of any LAS or development project needs to account for the features of, and practices used in, local informal land markets and offer appropriate and attractive transitional processes.

Successful formal land markets do not require that all land interests and commodities be included in formal processes. Indeed all countries, even those with complex land markets, allow informal activities and trade in commodities beyond government purview. In common law countries, most of the trusts used to organise land, are “off the register” and not formally accounted for. Most countries do not register domestic or residential leases: it is too much trouble for little return. Nor do successful land markets require universal approval.

### **Formal land markets**

Successful formal land markets require institutions organised by governments. Institutions include land registries and cadastres, and, most important, the institution of property. In addition to land administration infrastructure, land markets require well balanced legal systems, dispute management systems and financial systems of international standing. Most successful LAS provide the confidence and public face of land trading that, in turn, support highly geared trading processes that accelerate creation of national wealth.

Three key disciplines are involved in highly formalized land markets: economics, law and land administration. In economic theory, the nature of land is quite different from its nature in the discipline of land administration. LAS manage property rights. Legal systems define them. Economics generally measures market operations.

Together these disciplines convert land rights into tradable assets. Legal and administrative systems start the process of commoditization (called “commodification” in some countries). The formalization of property rights into tradable commodities involves identifying robust land rights and restrictions within existing cultural norms, managing disputes, establishing priorities amongst conflicting rights, and layering different simultaneous opportunities in a single parcel.

LAS are responsible for identifying these commodities and creating order to support a reliable trading system. LAS are vital for the organization and effectiveness of formal land markets. The most successful management of land markets is delivered by seamless and integrated management of *all land and associated resources* within the jurisdiction. Land administration should cover all land in a jurisdiction, not merely land available for commodification, so that the commodities to be traded are completely and comprehensively identified. The most coherent LAS therefore provide support for management of national land and public assets, and include all land within the cadastre or parcel map system, even if commodities relating to it cannot be traded. Land devoted to roads is a typical example of land which does not have commodities related to it (though even this is changing). This land is outside the market but within the LAS because it allows parcels with road access to be identified. The LAS should also extend to commodities in the resource and marine environments.

## Controls on land markets

Land markets are managed according to national land policy. Apart from countries with little or no capacity for governance, most countries control where and how land markets work. All countries remove part of their national estate, or land and resource assets, from markets, typically national parks and water reserves. Some place all land under the ownership or control of the national government, and create commodities in land use rights, real estate assets and buildings. These decisions reflect local needs, especially on whether the national economy is centrally organised.

Even in free market economies, substantial controls over land markets exist. Setting conditions on which national land markets are allowed to operate involves complicated policy making. In many situations, the land administration involves formalizing processes in existing, informal markets. In others, processes of transition from non-markets to markets, and from informal to informal markets, are not managed systematically. Rather they occur through spontaneous, case-by-case decisions made by owners or groups of owners. Governments seeking large scale conversion must provide the infrastructure for implementation, typically through land titling or land administration projects. In land administration theory, a key to successful and managed transition is engagement of the intended beneficiaries in the processes of change.

In free market economies, market controls typically operate indirectly. Operations of free land markets are subject to extensive indirect controls. Among them are, taxation of transactions, compulsory (or near compulsory) registration of transactions, macro economic controls over money supply, including supply side credit controls, land use planning restrictions, extensive consultation processes and compliance standards for land development, environmental protections, provision of infrastructure of roads, drains and utilities, regulation of professionals, transaction and construction standards, and so on. In free market systems, LAS underpin implementation of these controls, particularly by providing information and facilitating transparent processes.

Developing countries tend to use cautionary controls aimed at reducing the accumulation of land in the hands of the few. For example “privatization-oligarchs” in some Eastern Europe countries and large accumulations by land speculators in developing countries are clearly undesirable outcomes. Common regulatory patterns therefore include limiting the amount of land owned, setting minimum sizes of parcels (to eliminate non-economic farms), controlling land uses (through tenure and planning systems), controlling change of use, anti-speculation provisions, moratoria on land transfer (especially for newly titled, traditionally held land), price controls to assist acquisition by the poor, and credit ceilings on use of land as collateral to avoid foreclosures and forced sales (van der Molen and Mishra 2006). Controls on foreign land ownership and investment, and ownership by corporations are also very common. From the viewpoint of land administration, these controls tend to fail, either because their intended beneficiaries do not cooperate, and, in some cases, even oppose the controls, or because the infrastructure supporting land market activities provided by the government is inadequate to meet the regulatory challenges or is affected by corruption. Controls over land markets are only viable to the extent that governments have capacity for, and willingness to, implement them consistently and transparently, without fear or favor. Moreover, implementation of the controls must be generally supported by the public.

## **Why formal land markets are hard to establish**

Land markets are hard to establish. The infrastructure is expensive. A country has to be relatively rich in economic and social capacities before it can develop formal land markets, even when substantial foreign aid is available. Introduction of formal markets requires high quality, anticipatory planning, and diverse sources of financial and human capital to build the necessary infrastructure. Technical supports for developed land markets devour human and economic resources. In addition, land markets demand high levels of cognitive capacity in their beneficiaries and participants. These aspects of market operations and the socio/political tools available to build capacity are only just beginning to be explored.

Land markets are surprisingly variable in their operations. Every market has its own momentum. A focus on the sales market should not be allowed to overshadow rental markets (World Bank and Deininger 2003) where very different processes must be used, particularly systems to give secure possession of tenants and prevent arbitrary eviction. Making generalizations about land markets, or borrowing tools from other markets, must be counter balanced by grounding research in local contexts.

Land markets cannot be built in isolation from markets for labor, money and agricultural products. All must be examined holistically and results integrated into LAP design (Smith and others 2007). Successful markets depend on credit. As a generalization, informal credit systems need to rely more on informal, and even predatory, tactics to protect loans.

## **Land markets and land projects**

During the late 1970s and early 1980s, the World Bank and other agencies commenced large land administration projects with the intention of delivering prosperity, peace and poverty alleviation to developing countries (Bruce and others 2006). Project designs were implemented with an impetus on technical solutions and a rapid delivery of market options for economic growth. They focused on delivering straightforward individual private land rights as an investment incentive. Generally, the operative assumption was that titling would deliver effective land markets and economic improvement.

Later, the relationships between registration, titling, and land markets were examined more critically, especially as land projects failed to deliver anticipated benefits. According to Feder and others (1988), the Thailand Land Titling Project (TLTP) indicated a positive relationship between economic improvement and registration. Atwood (1990) argued that there was not. Economists took a great deal of convincing that the assumptions needed to be modified. A short, economics oriented, review of land titling projects expressed cautious optimism (Enterprise Research Institute for Latin America 1997). Many more people contributed to the debate, with anthropologists and sociologists expressing scepticism about titling as a universalizable means of delivering economic benefits to the intended beneficiaries. The debate resulted in documentation of the failure of titling programs that aimed to increase tenure security and reduce conflict, reflecting a wide spread concern to find durable solutions.

“Failed titling programmes are reported to have: allowed wealthier and more powerful groups to acquire rights at the expense of the poor, displaced or

female land occupiers (Binswanger and others 1993; Lastaria-Cornhiel 1997; Platteau 2000; Toulmin and Quan 2000); increased conflict by imposing simplistic legal systems on complex interrelationships (Fitzpatrick 1997; Knetsch and Trebilcock 1981; Lavigne-Delville 2000; Simpson 1976; Toulmin and Quan 2000); and increased insecurity by overlaying formal institutional arrangements with informal arrangements (Bruce 1998a; McAuslan 1998; Platteau 1996; Toulmin and others 2002)."

(Dalrymple 2006).

The critical literature also revealed another issue: lack of information. Too little analysis was given to the function of titling as a means of improving land management. Consequently "one size fits all" approach of titling individuals as owners in a registration program was finally abandoned in favor of more adaptable approaches (World Bank and Deininger 2003). New research networks appeared, most prominently the Global Land Tools Network, multi-discipline, comparative analyses were published (Torhonen 2001), and case study material increasingly became available (for instance, the cadastral template). These efforts will continue to refine project design and theoretical analysis. For land administration as a theory and supporting discipline, the debate focused away from ideological contests between pro-market and anti-market proponents.

As at 2007, land administration reform in the form of titling projects, especially for economic advancement and poverty reduction, requires simultaneous consideration of all aspects of sustainable development; namely environmental, social, economic and governance. A sociological and anthropological understanding of perceptions of people and of the importance of their local cultures is now part of betterment strategies, and indeed universally recognised (Harrison and Huntington 2000). Thus, the success of land markets depends not just on titling. They require three basic assumptions operating society wide, more or less: enthusiasm for material advantage, belief in democracy and capacity to operate it, and belief in the sanctity of property. If these western ideas can be transferred and managed, effective land markets can follow, as Thailand, Malaysia, Japan and Korea demonstrate. But in Africa, Timor Leste, Tonga, Solomon Islands and, indeed, most other countries, any transitional process needs to start much more with people's attitudes, than with building GIS and titling programs.

### **The new role of "passporting" property**

Hernando de Soto's influential book, **The Mystery of Capital** (2000), identified a much greater role for "passporting" assets than mere security of tenure; he viewed the passport or official title for an asset as having both an identifying role and a capital formation role. Titling would identify capital tied up in land, and permit the land to be collateralized, giving the poor access to credit.

These ideas are now applied to pro-poor empowerment, following more inclusive models for design of betterment paths, rather than "title at all costs" interventions. This broadening is reflected in the **High Level Commission on Legal Empowerment of the Poor** which links poverty and the inability of the poor to access acceptable, legal structures to protect their economic assets. The Commission's unique mission is built on the conviction that poverty can only be eradicated if governments give all citizens, especially the poor, a legitimate stake in the economy

by extending access to property rights and other legal protections to populations and areas currently not covered by the rule of law. The commission wants the poor to have more access to property rights, assuming they are the right kind of land rights for their situation, but recognizes that, on their own, the property rights are not enough.

The enigma faced by both de Soto and his critics is that titling the land of the poor sometimes made little difference to their lives (Gilbert 2002), despite the observable truth that land titling delivers immense wealth to the successful democracies. For land administration as a discipline, then the starting point is that the successful economies of the world are masters of land management (comparatively speaking), and provide expensive infrastructure to deliver tenure, value, use and development processes. For the multilateral agencies and less successful governments then the problem is how to transplant these institutions and processes with more success. The solution to the enigma lies in better project design, especially in the selection of tools for the LAS.

## BUILDING INFRASTRUCTURES TO SUPPORT FORMAL MARKETS IN EVOLUTIONARY STAGES

### Stages of market development

To better describe the kind of land administration institutions and tools needed to create and manage land markets, an evolutionary model of the stages of development of an infrastructure to support formal land markets was built in **Figure 1** below. Assuming formal markets are the goal, LAS are needed to manage market processes at significant evolutionary stages that build a mature property market: #3 Land trading, #4 Land market, and #5 Complex commodities market.



**Figure 1.** Evolutionary stages in development of formal land markets  
(Wallace and Williamson 2006a)

The five evolutionary stages do not represent discrete empirical experiences of how formal markets actually evolve. They are designed to show how LAS need to be developed to assist the actual and potential economic development of a country. Given the predominance of informal markets, most nations will experience more than one stage at any time, and find that smooth transition from simple to complex markets is difficult to manage (Wallace and Williamson 2006). Moreover, the paths between the stages are essentially local experiences. Without these detailed studies of on-ground reality or *a priori* detailed knowledge, failure of projects aimed at setting up or improving markets is likely.

A simple explanation of the characteristics of each stage is given in **Table 1**, below.

<b>Table 1. Simplified characteristics of evolutionary stages of land markets</b>	
<b>Stages</b>	<b>Characteristics</b>
<b>1 Land</b>	A group or country establishes a defined location with territorial security. The securing of spatial relationships in land arrangements among competing groups is fundamental to all later developments.
<b>2 Land rights</b>	Within the group, regularities of access create expectations which mature into rights. In formalized systems, the rights are reflected in the legal order. In some of these, the legal order is further embedded in formal infrastructure of LAS. The crucial element of cognitive capacity of the participants starts with “my land” and “not my land” and matures into everyone appreciating “your land”. The power derived from land ownership is also managed and restricted by taxation and other systems.
<b>3 Land trading</b>	Virtually at any time in stage 2, a process of trading land between members of the group will develop. The rights in land traded evolve into property, the basic legal and economic institution in formal land markets. As economies become more complex, the trading will include strangers, and will depend on objective systems of evidence, eventually on a well-run program of recording of property right. Processes of inheritance tracking will also develop.  The commoditization processes will involve public capacity to view land as offering a wide range of rights, powers and opportunities. The better these are organised and understood, the better the market will operate.
<b>4 Land market</b>	Now the trading gets serious and increases in scale and complexity until it develops into a property market in which rights are converted into tradable commodities with ease. Significant government infrastructure supporting the market activities in land stabilizes commoditization and trading.

	Land is used extensively as security, multiplying the opportunities to derive capital. Capacity to invent and market new commodities emerges and gains strength.
<b>5 Complex market</b>	The stability of the market allows spontaneous invention of complex and derivative commodities and “unbundling” of land. This involves imagination and globalization. Typical machinery includes corporatization, securitization and separation. The system relies heavily on the rule of law, government capacity, and national ability to compete for capital in international marketplaces.

While markets depend on capacity to define commodities in the form of rights that are recognised as property, processes involved are typically mixed up with land trading and marketing. For a country to achieve a land market, its policy makers must obtain public commitment to the primary functions of property rights in land - stabilizing land distribution, distributing power to land owners and generating capital. While land rights can exist without a market, markets cannot exist without land rights. Tradable land rights are the outcome of the institution of property. Robust land rights and an effective LAS are necessary, though not sufficient, for success in the later market stages.

A functioning society always needs to rationalize the relationships between people and land; trading in commoditized land is one of the easiest methods of rationalization, especially when compared with bureaucratic or centralized allocation. Commoditization of land is ancient; instances of sales are recorded in the earliest of human writings. Recent scholarship suggests that land was commoditized 4000 years ago: two conditions are regarded as essential - literacy and scarcity. Industrial capitalism is not, though it is the engine of a complex market (Epstein 1993, p 1377; Wallace and Williamson 2006).

The message for designers of LAS is to manage the transitions through the five evolutionary stages in a way that anticipates the complexities of a fully developed formal market. Whatever the process of change, the evolutionary stages in market development operate like building blocks; LAS capacity must be developed to manage each stage before the next is possible and all earlier stages must operate successfully to support, or be subsumed into, the more complex stages (Wallace and Williamson 2006). This is quite different from saying that every country must actually go through all the stages. In fact many countries attempt to collapse the evolution of formal land markets into a couple of decades. Their success depends on their ability to build robust administration to support stable land trading systems, attractive commodities, and cognitive capacity, before moving on to the high-end property market sophistications of secondary mortgage markets and property trusts.

In countries with successful simple land markets, the rights are based on secure and clear tenures which give broad decision making capacities to owners and allow others limited opportunities to restrict these capacities. A system of evidence of ownership, usually including land registration, exists to provide confidence in trading. The beneficiaries of the tenure system are willing participants and have a social and cognitive capacity to think of land as a commodity. They recognise that land owners can organise other people, enjoy a larger realm of decision impact, and given enough,

these owners can influence the lives of other people (Denman 1978, p 46). The shared understanding of rights among beneficiaries is hard to build and maintain because allocation of land to particular individuals and groups is in fact a state sanctioned distribution of power. A standard array of LAS infrastructure and tools is described in **Table 2**.

<b>Table 2. Evolution of infrastructure and tools in LAS</b>	
<b>Stages</b>	<b>Infrastructure and tools</b>
<b>1 Land</b>	Territorial recognition.
<b>2 Land rights</b>	Capacity to understand land as a series of rights. A legal system to manage coherent fit of the various rights. Basic administrative system to document the rights: where, what, who and when.
<b>3 Land trading</b>	Public understanding and acceptance of trading system. A theory of property allowing private, individually owned land rights. Formal transaction arrangements. Trading between strangers. Mature evidentiary systems relying first on paper trails, then ultimately on digital systems. Objective identification of boundaries. Inheritance tracking through the inventory system. Government infrastructure supporting core LAS activities.
<b>4 Land market</b>	Extensive trading and management of trading risks. Flexibility in LAS to recognize new commodities. Growth in separation of land, minerals, soils and gravel, and of trees, crops and produce as unique commodities. Extensive capacity to support supply and maintenance of utilities and services, and multi-occupancy and multi-purpose buildings. Participation by corporations to spread risk, organise management of interests and extend opportunities for participation. Complex layering among interests in land, resources and commodities. Growth in human skills and administrative systems, particularly inventory systems. High investment in government infrastructure, especially in technology.
<b>5 Complex market</b>	Investment in technology to maximize speed and range of services provided by government and private sector in core LAS processes. “Unbundled” interests in land that are traded separately. Highly geared systems capable of managing mass transactions. Extensive participation in land based activities by corporations. Extensive, accountable and transparent administrative systems; highly reliable inventories with clearly defined functions that operate simultaneously without conflict.

Public and private administrative systems operating in key areas.  
Organised controls over land to deliver planning, environment protection, contamination and risk management, and more.  
High level of inherent flexibility in creation of new commodities.  
Participation opportunities other than outright ownership, especially through pension funds, superannuation schemes, trusts, and corporations.

### **Commoditization systems**

The point of differentiation between simple land trading (Stage 3) and land markets (Stage 4) lies in understanding that land is not the only or even the basic ingredient. Successful land markets (Stage 4 in Figure 1) are capable of inventing and commoditizing abstractions. Their vitality comes from the capacity of their administrators and participants to create and market abstract land rights and complex commodities, in addition to the land itself (Wallace and Williamson 2006). Once abstractions are understood the view that land is a commodity with limited availability ceases to be an overriding constraint on the market. “Land” in this sense is unlimited.

Property rights are the engine of a land market. They carry opportunities to exclude others, profit from use of the land, give away or sell the land, and create subordinate interests, especially leases and mortgages. Property rights in land share these opportunities in common with rights in other kinds of property, for instance, copyright, debts, shares, and interests in resources. Sound rights presuppose governmental capacity to announce and implement legal rules, especially laws about property in general, transactions, and disputes. These rules and their routine administration are necessary but not sufficient to turn the bundles of opportunities specified by the rights into marketable commodities.

If the government institutions are stable enough, and land administration and land rights are established, market activities evolve more complex products, typically by adopting an initiative trialed in another jurisdiction. Examples of more complex products include: building titles, secondary mortgage market products, build/own/transfer arrangements, development trusts, property trusts, and so on. Some of these commodities are closely related to the simple land market commodities and their related activities. Others require substantial legislative and administrative changes to expand private property rights and registration schemes, and to apply them to new commodities.

Since the mid 1990s, new, radical processes of commoditization “unbundled” land into separate tradable assets. In this process, opportunities related to the land itself, and to minerals and petroleum, water, fauna, flora, tradable permits, carbon credits, wildlife credits, dryland salinity credits, planning opportunities, waste management, and so on, are repackaged and made tradable, independently of ownership of the land. The idea comes from using market based instruments (MBI) or incentive instruments for environment and resource management (Panayotou 1994). These initiatives borrow heavily from property theory and from the main characteristics of western property: exclusivity, duration, quality of title, transferability, divisibility and flexibility. They all require an administrative infrastructure, frequently incorporated into LAS, but sometimes built separately. Analysis of the infrastructure needed to

manage these commodities to date concentrates on registration, indefeasible or guaranteed title, mortgageability, and compensation for acquisition. However, these developments potentially challenge capacity for holistic land management, unless the design of the administrative arrangements and the information generated are related back into the LAS and treated within the land management paradigm. Moreover, little theoretical or practical research is available on how to incorporate social and stewardship values, and public goods embedded in the substantial restrictions affecting land into these unbundled commodities.

### **Cognitive capacity and LAS evolution**

The significance of land to capitalism is now better understood. In the theory so far, land is a potential market asset and source of capital. If a country cannot produce capital out of land, its population will remain poorer to the extent of the unrealized opportunities. Unless other sources of wealth are readily available, its people will observe expansion of the gap between their economy and economies of successful countries (de Soto 2000, 4-5).

This theory, however oversimplifies land markets (Stage 4) and the transition to complex markets (Stage 5). The *land market* label differentiates the earlier stage 3 (land trading) where simple land trading appears among group members and eventually among strangers and members. When land markets develop (Stage 4), the scale of activities is fundamentally larger, market management demands multiple and objective sources of integrity and reliability beyond mere group verification. And the state is, and must be, more involved. The result is a highly organised matrix of commodities, competencies and participants (Wallace and Williamson 2006). This mix allows the market work on a much larger scale and forms the basis for moving to complex markets (Stage 5).

Despite their sophistication, the infrastructure supporting most land markets just grew without direction or design. Many informal markets relied on intuitive development of the three easily identifiable and essential activities for running a market:

- they invented diverse land based commodities,
- they perfected capacity to use land as a security, and
- they managed a huge increase in the scale of land trading.

Dynamism lies not just in the scale of trading. Increasing formalism allows more proprietary separations and reconstructions, derived from tenures that allow an owner to reduce his rights by creating derivative interests to permit actual use by owners of lesser rights, to recast his activity from actual land use to take profits from land use by others, and to reduce his activity on the land while increasing his gains, and generally to fragment the way land is used.

Successful commoditization in Stage 4, Land Market, and Stage 5, Complex Market, thus depends on an administrative system capable of building the capacity of the participants to understand the nature of the commodities. Because land markets commoditize abstractions and make them tradable, the LAS provides the necessary framework for reliable identification of and trading in the commodities. Once an LAS is built, the capacity to create new commodities out of land is open-ended, limited only by human imagination and capacity to invent appropriate administrative

structures. This creativity allows land markets to constantly create new, and retire old, commodities, provided the underlying administrative infrastructure is reliable and flexible. Commodities are developed through three waves of creativity, each a little different from the other, but generally relying on an entrepreneurial response to perceived issues, including sustainable development. These waves are:

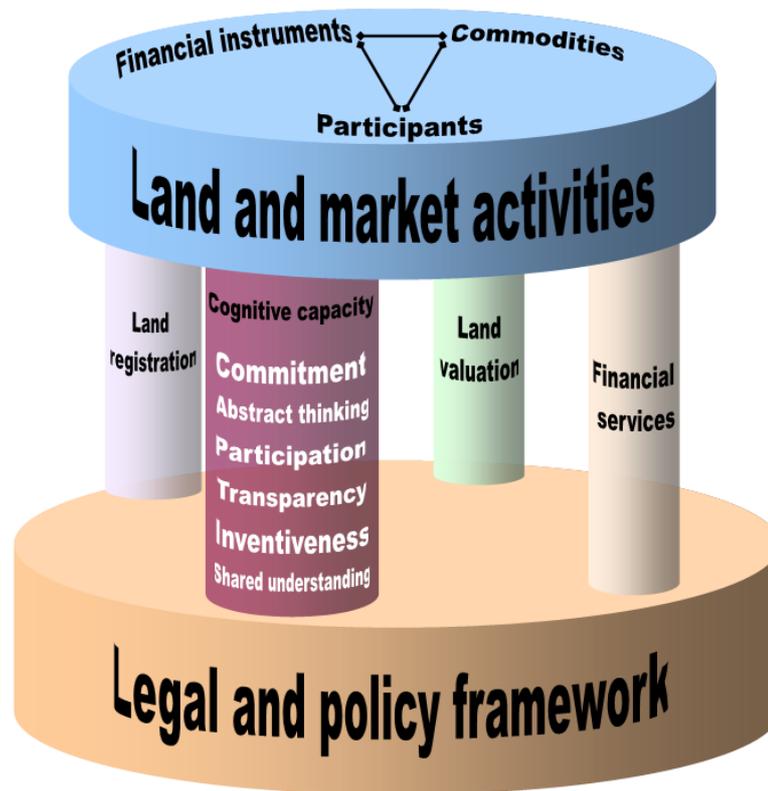
*Creativity in commodities reflecting changes in land use:* time shares, strata titles, community titles, utility infrastructure titles, and so on. These collect together the surface land and complicated built arrangements, add a range of access opportunities, and provide for a wide variety of uses to suit specific needs.

*Creativity in derivative interests:* This builds new commodities, on top of the activities in the simple land market. They include products for security tenures, secondary mortgage markets, risk markets, and new financial interests. These commodities do not involve physical access to land, though it might be available in situations of structural breakdown, and they extend opportunities for participation in land markets exponentially and globally.

*Creativity in environment protection instruments and “unbundling” of land and resources:* This concentrates on unbundling and separation to allow market forces to create and distribute property separated out of opportunities previously tied to the land ownership.

All these creative activities depend on the LAS having well developed processes for layering, separating and defining. The capacity of a system to support creativity depends on its ability to set a reliable basic system as a foundation on which it can internalize the inventions of entrepreneurs.

The core ingredient of a complex property market is the cognitive capacity of its participants who manage complicated sets of interrelated activities and outcomes. A graphic representation is made in **Figure.2**, developing Peter Dale’s Three Pillars Diagram (2000). Mature cognitive capacity is both the incentive for and the outcome of the LAS infrastructure (and other administrative systems) which specifies, and enforces layers of conceptual, not physical, “reality” to support property rights in land and complex trading activities. The cognitive capacity cannot develop without the machinery in these systems. The capacity involves the society understanding the need for conceptual thinking, ability to create concepts, ability to imagine opportunities, and an ability to articulate a broadly acceptable philosophy and set of values to underpin the entire system. The most important message for LAS designers is the necessity for transparency in the system to support development of a vigorous cognitive capacity by participants.



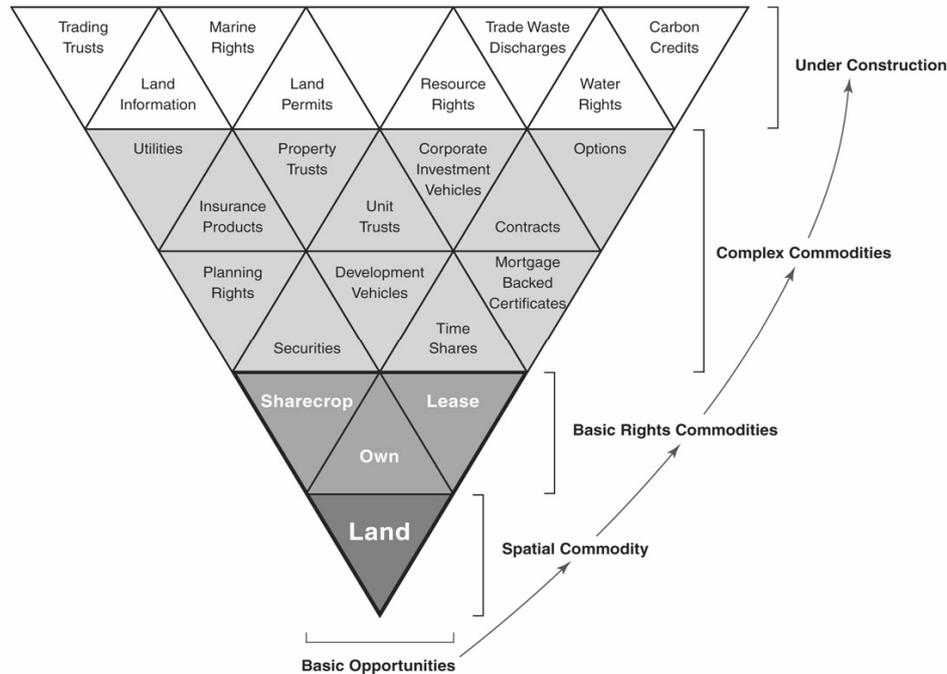
**Figure 2.** Land market supports

When all these functionalities are established, institutional support for new commodities develops. For example, the opportunity to “own” land through membership of a corporate or trust vehicle is open-ended and available to individuals with even minimum capital. Opportunities to trade “land” through transactions involving shares, units and pension fund investments are similarly opened up. The capacity of land to generate value can be mixed in dynamic and flexible ways with other economic opportunities for production and investment. Secondary markets flourish. More importantly, national trading attracts international investment. The basis of the market remains land, but what is now tradable is limited only by imagination and creativity. **Figure 3** shows a selection of the interrelated new commodities drawn out of land.

Complex markets require and benefit from competent government infrastructure, and especially from technology. They also require substantial levels of formalization and commitment to publicly responsive systems. Additionally, management systems need to create predictable, reliable transaction patterns, particularly dealing with rent seeking, corruption, fraud and forgery.

Complex markets benefit from remarkable improvements in technical support systems. In terms of their antecedents the technical tools now in use are unrecognizable: Geographic information systems (GIS) (Longley and Batty 2003), land registration systems, parcel definitions (UNECE 2004), information coherence and interoperability, SDIs (Williamson and others 2003), LAS, and computerized access and assistance in general are vastly different given new management, technology and government roles. These developments were partly responses to

improved technical capacity for creation and transfer of data (generated by computers and the Internet), new management styles, and devolution of the role of governments to public/private partnerships and the private sector. Thus, improvement in information integrity and rights regularities fuelled significant improvements in land markets, wealth acceleration and opportunities for sustainable development. However, the largest contributor to the vitality of the marketplace remains the creativity of its players or participants. Nurturing this vitality is far from easy.



**Figure 3.** Complex commodities market  
(Wallace and Williamson 2006)

## CONCLUSIONS

Like other complex social and economic systems, land markets generate their own myths and shared understandings. The significant difference between undeveloped and developed economies is not their lack of records. Sometimes, even with records, the first group lacks the ability to systematically conceptualize land sufficiently to run an effective market, as the Indonesian example of idiosyncratic land rights illustrates. Recording of rights alone does not invite the next stage. It is not records, but the ability to work with abstractions that allows developed countries to accelerate wealth through creation and marketing of complex commodities.

Western countries allow their land owners to remain attached physically to land, to think and talk about the characteristics of an individual parcel or building, to regard the area within boundaries as “mine” and “yours” but they also do something far more important. They build concepts in relation to land, embed these concepts in social behavior, language and economy and trade the concepts (Wallace and Williamson 2006). The administration systems provide the objective regularities that facilitate development, ownership, management and trading of conceptual or intangible

commodities. By contrast, if a country focuses on land as simply land, it cannot develop the functional processes required for wealth acceleration through commodification of land rights and complex commodities related to land.

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### **Acknowledgments**

This article is based on Wallace and Williamson, 2006. 'Building Land Markets', *Land Use Policy Journal*, 23:123-135 and on research for a forthcoming book, Williamson Enemark, Wallace and Rajabifard, *Building Land Administration Systems*, ESRI Publications, 2008.



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**Title:**

Building new markets in the Asia Pacific Region

**Date:**

2007

**Citation:**

Williamson, I. & Wallace, J. (2007). Building new markets in the Asia Pacific Region. In International Workshop on Good Land Administration - Its Role in Economic Development, Ulaanbaatar, Mongolia.

**Publication Status:**

Published

**Persistent Link:**

<http://hdl.handle.net/11343/26699>